



**DEFENSE LOGISTICS AGENCY**  
DEFENSE SUPPLY CENTER, COLUMBUS  
POST OFFICE BOX 3990  
COLUMBUS, OH 43216-5000

IN REPLY  
REFER TO

DSCC-VAT

1 July 2004

MEMORANDUM FOR MILITARY/INDUSTRY DISTRIBUTION

SUBJECT: Initial Draft of MIL-PRF-8805 /11J, /14F, /15G, /17G, /18G, /19F, /23G, /25F, /34E, /38G, /40H, /47G, /48H, /49H, /65D, /76H, /84E, /90F, /96E, /100F, /101K, /104C, /107C, /110D, and /114C.  
Project numbers 5930-1838 through -1863.

The drafts of the above subject documents are being sent to you for review and comments. These drafts consist of the following changes:

Updating of referenced documents.  
Incorporation of amendments.

If these documents are of interest to you, please provide your comments electronically. This can be in the form of a return e-mail, with or without an attached text file. A 45-day coordination cycle from the date of this letter has been allotted. Please provide your comments within that time period. If no comments are received in the allotted 45 day coordination cycle, concurrence is assumed and all comments received after will be held to the first amendment. If an electronic response is not possible we will still accept comments via letter, facsimile or phone call but only after you have contacted the project officer listed below. The draft documents can be found at the following DSCC-VA web page:

[www.dsccl.dla.mil/Programs/MilSpec/initialdrafts.asp](http://www.dsccl.dla.mil/Programs/MilSpec/initialdrafts.asp)

This process still requires military departments to identify their comments as "Essential" or "Suggested". Essential comments must be justified with supporting data. Military review activities should forward comments to their custodians or this office, as applicable, in sufficient time to allow for consolidating the department reply.

If there are any questions, please contact Mark Rush by the preferred method of E-Mail at [Mark.Rush@dlamail](mailto:Mark.Rush@dlamail) or by telephone at commercial 614-692-0550, DSN 850-0550; or by facsimile at 614-693-1644. Our mailing address as a last resort is Defense Supply Center, Columbus, DSCC-VAT, P.O. Box 3990, Columbus, OH 43216-5000. If you have further questions or concerns you may contact me at [Kendall.Cottongim@dlamail](mailto:Kendall.Cottongim@dlamail), by telephone at 614-692-0676 or by facsimile at 614-692-6939.

/ SIGNED /  
KENDALL A. COTTONGIM  
Chief  
Electronics Components Team



NOTE: This draft, dated July 1, 2004 prepared by DLA-CC,  
has not been approved and is subject to modification.  
DO NOT USE PRIOR TO APPROVAL.  
(Project 5930-1847)

INCH-POUND

MIL-PRF-8805/38G  
DRAFT

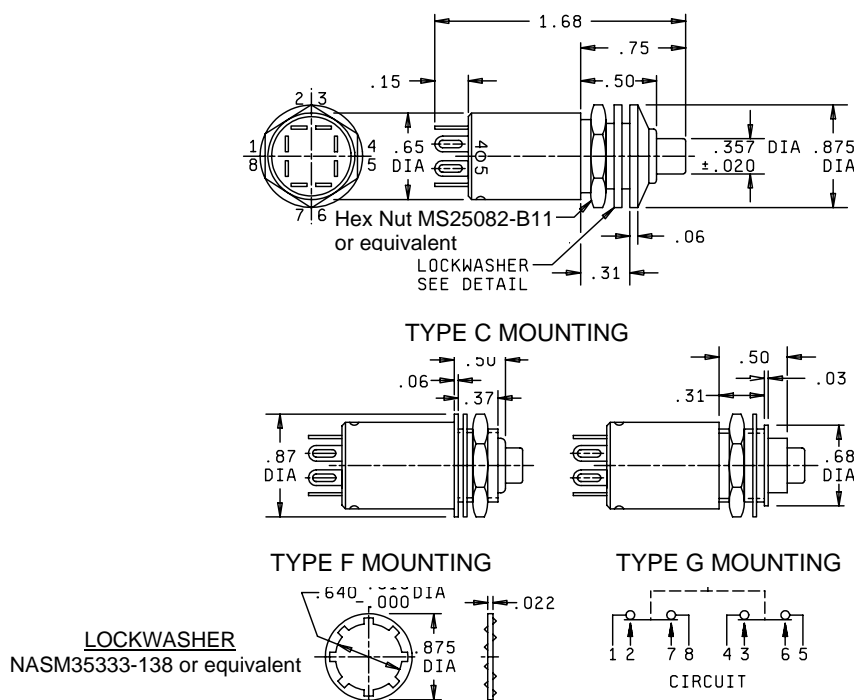
SUPERSEDING  
MIL-PRF-8805/38F  
3 September 1999

## PERFORMANCE SPECIFICATION SHEET

### SWITCHES, PUSH, MOMENTARY, 4 CIRCUIT, 4 AMPERES OR LOW LEVEL, DUSTTIGHT

This specification forms a part of MIL-PRF-8805, dated 23 January 1998, and is approved for use by all Departments and Agencies of the Department of Defense.

The requirements for acquiring the product described herein shall consist of this specification and MIL-PRF-8805.



Inches	mm	Inches	mm	Inches	mm	Inches	mm	Inches	mm
.010	0.25	.055	1.40	.25	6.4	.50	12.7	.75	19.1
.020	0.51	.06	1.5	.31	7.8	.640	16.26	.87	22.1
.022	0.56	.109	2.77	.37	9.4	.65	16.5	.875	22.23
.03	0.8	.15	3.8	.375	9.53	.68	17.2	1.68	42.7

#### NOTES:

- Dimensions are in inches.
- Unless otherwise stated, tolerances are  $\pm.02$  (0.51 mm) for two place decimals and  $\pm.005$  (0.13 mm) for three place decimals.
- The circuit and terminal arrangement shall be permanently and legibly marked on the switch case.
- Metric equivalents are given for general information only.
- Mounting hardware has .625-24 UNEF02A external thread and is removable for installation.
- Alternative base metals and protective finishes, as approved by the qualifying activity, may be utilized for hardware material

FIGURE 1. Dimensions and configurations.

REQUIREMENTS:

Dimensions and configurations: See figure 1.

Enclosure design: 2 (dusttight).

Temperature characteristic: 1 (-55°C to +85°C).

Shock type: (50 g's sine wave) method 213, test condition A, MIL-STD-202.

Sinusoidal vibration grade: 1 (10 to 500 Hz).

Weight: 0.40 pound maximum.

Operating characteristics:

Total plunger travel: .085  $\pm$  .015 inch.

Operating force: 4  $\pm$  1 pounds.

Strength of actuator means: 25 pounds.

Terminal strength: 5 pounds.

Finish: Shall be corrosion resistant, black and lusterless.

Dielectric withstanding voltage:

Sea level: 1,000 V rms; 1,000 V rms between all terminals and mounting plate and 200 V rms between all terminals following electrical endurance.

Mechanical endurance: 50,000 cycles.

Electrical endurance: 25,000 cycles.

Electrical ratings: See table I.

Sand and dust: Applicable.

Low level circuit: Applicable when specified (see table III).

Electronic logic circuit (5.0 V dc, .010 ampere): Applicable when specified (see table III); 25,000 cycles at an actuation rate of 120 cycles per minute maximum with no "stick", or "misses", allowed when tested in accordance with ANSI/EIA RS448, method 17 as follows:

Test condition:

Each switch contact shall be tested using a 5.0  $\pm$  0.5 V dc, 10  $\pm$  1 mA resistive load. During each closure of the contacts, the voltage drop across the switch terminals shall be monitored for a duration of no less than 50 percent of each contact static closure. The switch contacts need not be monitored until 10 milliseconds after the initial contact closure to exclude any contact bounce. During each opening of the contacts, the voltage drop across the switch terminals shall be monitored for a duration of no less than 50 percent of each contact opening.

A voltage of 2.1 volts or greater across the switch terminals shall constitute a contact "miss" (failure to properly close the circuit). A voltage drop of less than 90 percent of the open-circuit voltage shall constitute a contact "stick" (failure to properly open the circuit).

The monitoring device shall either record the number of contact closures at which "sticks" and/or "misses" occur, or discontinue the test when "sticks" and/or "misses" occur.

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Operating temperature:

- a. 25 percent for the test cycle at -55°C specified.
- b. 25 percent for the test cycle at room ambient conditions.
- c. 50 percent for the test cycle at +85°C.

Qualification:

Group submission: See table II.

Part number: See table III.

TABLE I. Electrical ratings, power circuit switches  
(MS27903-1 through MS27903-6).

Load	Sea level	
	28 V dc	115 V ac, 400 Hz
	(Amperes)	(Amperes)
Resistive	4	4
Inductive	2	2
Motor	2	2

NOTE: MS27903 was superseded by MIL-PRF-8805/38;  
the MS27903 Part Numbers (PINS) were retained.

TABLE II. Qualification inspection.

Examination or test	Basic switch	Other switch samples	Extent of Approval	
Qualification inspection table of MIL-PRF-8805	MS27903-1 or MS27903-2 (all sample units)	MS27903-3, MS27903-4, MS27903-5, MS27903-6 (2 sample units each) Visual and mechanical examination	MS27903-1 through MS27903-06	
Group I and group X of the qualification inspection table of MIL-PRF-8805 plus 2 additional samples shall be subjected to logic level circuit and operating characteristics	MS27903-7 or MS27903-8			All

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TABLE III. Part numbers and characteristics.

Part number	Type	Button	Electrical ratings
MS27903-1	C	Black	Power circuit rating (see table I)
MS27903-2	C	Red	
MS27903-3	G	Black	
MS27903-4	G	Red	
MS27903-5	F	Black	
MS27903-6	F	Red	
MS27903-7	C	Black	Low level and logic level rating
MS27903-8	C	Red	
MS27903-9	G	Black	
MS27903-10	G	Red	
MS27903-11	F	Black	
MS27903-12	F	Red	

NOTE: MS27903 was superseded by MIL-PRF-8805/38; the MS27903 Part Numbers (PINS) were retained.

Referenced Documents:

MIL-PRF-8805  
MS25082  
MIL-PRF-8805/38  
MIL-STD-202  
EIA-RS448  
NASM 35333

Custodians:  
DLA - CC  
Navy - EC

Preparing activity:  
DLA - CC

(Project 5930-1847)

NOTE: The activities listed above were interested in this document as of the date of this document. Since organizations and responsibilities can change, you should verify the currency of the information above using the ASSIST Online database at [www.dodssp.daps.mil](http://www.dodssp.daps.mil).